Great Bay Siltation Commission Meeting

NH Department of Environmental Services/Coastal Program
Pease Field Office, Portsmouth, NH
May 12, 2008, 1:00 PM

Members: Rep. Judith Spang, Commission Chair, Durham
Ted Diers, NH Coastal Program
Ray Konisky, The Nature Conservancy
Justin Richardson, Newington Conservation Commission
Fred Short, University of New Hampshire
Larry Ward, University of New Hampshire
Alison Watts, Newfields Conservation Commission
Peter Wellenberger, Great Bay National Estuarine Research Reserve

Other Attendees: David Funk, Great Bay Stewards
Julie LaBranche, Strafford Regional Planning Commission
Christian Williams, NH Coastal Program

Summary:

Chairperson Spang asked Ray Konisky, chair of the commission's "impacts" subcommittee, to update the commission on the subcommittee's efforts. Mr. Konisky presented members with a spreadsheet identifying four primary categories of impacts: 1) ecosystem; 2) recreational, 3) social; and 4) commercial. Each of the four impact categories was divided into subcategories with focus areas for each subcategory listed. For each focus area, a description of the expected impacts of siltation/sedimentation was described and references listed (or data gaps identified). Mr. Konisky reviewed the spreadsheet with members. He stated that while ecosystem impacts are generally the easiest to identify, recreational and social impacts are more difficult to identity. In an effort to obtain additional information to fill in the gaps regarding the recreational and social impacts of siltation/sedimentation, he suggested that the commission solicit information through boater and/or mooring owner surveys. Another gap was in regard to public infrastructure impacts. Ted Diers offered to contact the wastewater and water supply engineering personnel at DES to see if they are aware of outfall or inlet pipes that need to be relocated due to sedimentation. Discussion followed.

With regard to ecosystem impacts, specifically impacts to eelgrass habitat, Fred Short stated that he believes that turbidity from stormwater runoff is the greatest cause of eelgrass habitat loss in the Great Bay Estuary. A few shellfish beds have also been buried but the problem seems to be more one of disease to older shellfish.

Chairperson Spang asked whether sediment cores taken from specific areas within Great Bay and its tributaries would be useful for determining sedimentation rates. Larry Ward stated that while sediment cores would be useful, they are expensive. He also stated that the location of the cores is very important if cores are to be compared with one another. Cores are one way to determine the rate of change, which appears to be a key unknown in the sedimentation discussion.

Mr. Diers stated that due to factors such as watershed size, sediment inputs, and tidal mixing, the rate of siltation is not uniform across the Great Bay Estuary. While sediment cores may tell us whether sedimentation rates are increasing, it is clear, based on the information contained in the aforementioned table presented by Mr. Konisky, that siltation is currently a problem for ecosystems within the estuary. The question, therefore, becomes what should be done about the problem? Should the commission focus its efforts on control measures to prevent sedimentation or should it focus on other options? Chairperson Spang stated that there appear to be three options for dealing with the sediment: 1) prevention (i.e., keep it from entering the system); 2) management (i.e., use the sediment for eelgrass habitat restoration); and 3) remediation/removal (i.e., dredging). Discussion followed.

Chairperson Spang then asked Justin Richardson of the commission's "causes" subcommittee to report on the subcommittee's findings. Mr. Richardson stated that he had created a matrix/spreadsheet to identify the sources of sedimentation to the Great Bay Estuary. He stated that while the subcommittee had not made much progress on the spreadsheet, it had identified stormwater runoff, bank erosion, agriculture, construction activities, and waste water treatment facilities as the primary sources of sedimentation to the estuary. Fred short raised the issue of the estuary's carrying capacity. If the estuary is at capacity with regard to sediment load, resuspension would be a primary cause of sediment in the water column. Alison Watts agreed to review the "causes" matrix and provide comments. Commission members also expressed interest in learning about modeling of streams, erosion and stormwater runoff. Mr. Diers will see if Andy Chapman from DES would be willing to give a presentation on the AVGWLF model.

Chairperson Spang then asked members about next steps. Ted Diers stated that he New Hampshire Coastal Program has money available to fund work by Larry Ward at UNH to compile and analyze existing bathymetric data from the Great Bay Estuary to get a better understanding of historic shoaling rates. The dataset includes soundings taken from National Oceanic & Atmospheric Administration (NOAA) navigation charts, hydrographic surveys from the U.S. Army Corps of Engineers, and multi-beam sonar data from the UNH Center for Coastal and Ocean Mapping/Joint Hydrographic Center. Chris Williams informed members that a NOAA-survey team would be working in New Hampshire for approximately one month beginning in mid-May to map navigational hazards in the Piscataqua River. The NOAA survey team has agreed to survey other areas within the Great Bay Estuary if time permits. Mr. Williams will be coordinating with the NOAA survey team, the Pease Development Authority Division of Ports and Harbors (PDA-DPH) and UNH regarding potential additional survey locations. The data collected from additional surveys would complement the dataset that will be complied and analyzed by Mr. Ward. It is hoped that this bathymetric study will shed some light on rates of change in sedimentation and thus help to pinpoint those areas of the Great Bay Estuary that should receive additional study, perhaps with sediment cores as discussed above.

Members agreed that a survey of boaters, mooring owners and other recreational users of the estuary would be helpful to fill in the gaps that currently exist with regard to the recreational and social impacts of sedimentation. Chris Williams and Ted Diers agreed to contact PDA-DPH regarding mooring owner contact information.

Meeting adjourned at approximately 3:00 PM.